

# Low Impact Design Principles (Improving Our Environment)

## Water Treatment (Planting Options)

- 1. Biofiltration Swales:** Stormwater is directed through vegetated filters that slow water flow, block contaminants, and facilitate pollutant and partial settlement into subgrade soil.
  - 2. Infiltration Strips:** Stormwater is directed into gravel infiltration trenches that collect the water and allows infiltration into subgrades.
  - 3. Rain Gardens:** Small-scale landscape areas with a specialized mix of plants that tolerate wet and dry conditions, and soils that rapidly absorb and store storm-water runoff. Located at low points, they collect water and allow infiltration into subgrades.
- \* **Recognize Existing Stream Systems:** Provide markers, interpretive signage, or other means of identifying existing stream crossings for public education and awareness.



## Paving Options

- 1. Concrete Paving:** Concrete mixes can incorporate recycled and industrial materials, including fly ash and granulated furnace slag. Recycled crushed concrete can be used as a base course material. Concrete is lighter in color than asphalt, which reduces heat gain and increases the amount of reflected light at night, making street lights more efficient. Concrete's durability conserves resources by reducing maintenance and the need for reconstruction.
- 2. Porous Paving:** Porous paving reduces stormwater runoff pollution. Porous paving consists of concrete unit pavers with small voids filled with gravel. This allows water to infiltrate into subgrade soils. Porous paving is only recommended within areas of slow traffic flows, such as on-street parking areas.
- 3. Remove Unnecessary Impervious Surfaces:** By reducing the number of roadway travel lanes from 4 to 3, impervious surfaces can be reduced and replaced with landscaping. Landscape plantings help store and filter rainwater prior to discharge into catchbasins or streams.



## Landscape Options

- 1. Increased Soil Depth:** A 12" to 18" depth of composted organic soils will increase water infiltration, decrease runoff, reduce the need for summer irrigation, and reduce the need for chemical fertilizers and pesticides. Soils should consist of a combination of recycled yard waste compost and native soils.
- 2. Native and Adapted Plants:** When possible, select plants that are native and/or well-adapted to the region. Native and adapted plants are better able to tolerate our climatic conditions and survive without supplemental summer irrigation or chemical fertilizers and pesticides.
- 3. Root Channels, Root Barriers, & Structural Soils:** These options help prevent damage to sidewalks from tree roots. Root channels, root barriers, and structural soil help direct tree roots deep into the subgrade soils and away from sidewalks. This conserves resources by reducing maintenance and the need for reconstruction.
- 4. Wildlife Enhancement:** Street trees can provide important habitat for wildlife as cover for nesting, shelter in winter, and as a food source.
- 5. Preserve Significant Trees:** Where possible, existing trees should be protected and saved.
- 6. Use street trees as a stormwater management tool,** by maximizing canopy coverage and creating opportunities for canopy overlap to shade impervious surfaces and provide increased interception area.
- 7. Best Management Practices:** All maintenance of landscape plantings should be per King County Integrated Pest and Vegetation Management Guidelines. These Guidelines require landscape plantings to be designed and maintained to produce healthy plants, while reducing the volume and toxicity of chemical pesticides used.

